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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,122	08/03/2001	Hugues Marchand	G&C 30794.79-US-U1	7852

22462 7590 12/09/2003

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EXAMINER	
SONG, MATTHEW J	

ART UNIT	PAPER NUMBER
1765	

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)	
	09/922,122	MARCHAND ET AL.	
	Examiner	Art Unit	
	Matthew J Song	1765	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 18 November 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☐ The proposed amendment(s) will not be entered because:

   (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b) ☐ they raise the issue of new matter (see Note below);

   (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____.

3. ☒ Applicant's reply has overcome the following rejection(s): 112 first paragraph over claim 38.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☒ The a)☐ affidavit, b)☐ exhibit, or c)☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: *see continuation sheet*.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☒ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: *1,2, 4-9, 11-35 and 37-39*.

   Claim(s) withdrawn from consideration: _____.

8. ☐ The drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10. ☐ Other: _____

SUPERVISOR
NADINE G. NORTON
PRIMARY EXAMINER

Response to Arguments

Applicant's arguments filed 11/18/2003 have been fully considered but they are not persuasive.

Applicant's argument that Redwing et al does not suggest that silicon substrates may be used (pg 8) is noted but is not found persuasive. Redwing's disclosure is primarily directed to the growth of a graded nitride layer on a SiC substrate. However, Redwing et al discloses that the quality of a GaN grown on lattice mismatched substrates such as sapphire, **Si** and SiC is greatly improved when a buffer layer is grown on the substrate prior to growth of the GaN layer (col 4, ln 60-65) and a compositionally graded buffer layer of AlGaN (col 7, ln 10-20). Therefore, Redwing et al does suggest Si, as a substrate for the growth of a graded buffer layer.

In response to applicant's arguments against the references individually (pg 8), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant alleges that Edmond does not suggest a Si substrate, which has been admitted by the Examiner in the prior rejection. The Goetz reference teaches this limitation (col 3, ln 20-35 and col 3, ln 60 to col 4, ln 5).

Applicant's argument that Edmond and Redwing et al teach away from the claimed invention is noted but is not found persuasive. Applicant alleges that Edmond teaches the benefits of SiC over sapphire, noting crystal lattice match and thermal stability are useful in producing a light emitting diode. However, Edmond et al and Redwing et al merely teaches a superior product using a SiC substrate over the known sapphire substrate. Goetz et al teaches the use of a Si or SiC substrate for the growth of graded nitrides. A known or obvious composition

does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). Furthermore, a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir.1998). Also, note MPEP 2123.

Applicant's arguments against the Goetz reference are noted but are not found persuasive. Applicants allege that Goetz teaching the various layer may be graded does not include the buffer layer **12** because Goetz does not teach a graded buffer layer on a substrate in any of the examples and only teaches GaN or AlN. The Examiner maintains Goetz teaches "various layers" may be graded, which would include the buffer layer **12**. Goetz broadly teaches a graded buffer layer and is not limited to any particular embodiments, note a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir.1998). Furthermore, graded buffer layers of AlGaN are known for the growth of GaN layers, note Redwing et al (US 5,874,747) column 7, lines 5-20.

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